

Serial No.: 09/511,795
Examiner: Dmitry Levitan

In the claims:

Please cancel claims 2, 9, 16 and 21-24.

Please amend the claims as follows:

Claim 1 (currently amended): In a multi-service network switch, a method for providing tiered access to system resources, the method comprising:

maintaining in a data store of the network switch two or more access tiers including a first set of one or more access tiers and a second set of one or more access tiers, each of the access tiers associated with a connection request characteristic and an access threshold;

receiving an incoming connection request;

determining the characteristic of the incoming connection request;

determining the access tier associated with the incoming connection request;

identifying a resource requested by the incoming connection request;

if the incoming connection request is associated with the first set of one or more access tiers, then automatically allocating the identified resource;

if the incoming connection request is associated with the second set of one or more access tiers, then:

determining an amount of current usage for the identified resource; and

allocating the identified resource to the incoming connection request if the amount of current usage is less than the associated access threshold;

terminating an established connection if the amount of current usage is greater than the associated access threshold;

deallocating the resource previously allocated to the terminated connection; and

wherein if there are more than one allocated connection having the same assigned access tier to be terminated, the order of terminating is according to first-in-first-out.

Claim 2 (canceled)

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Claim 3 (previously presented): The method of claim 3, wherein the system resources are partitioned among a plurality of virtual routers, and the monitoring of current usage of the system resources comprises monitoring usage of the system resources associated with each virtual router.

Claim 4 (original): The method of claim 1, wherein the characteristic of the incoming call is a type of inlink carrying the incoming connection request.

Claim 5 (original): The method of claim 1, wherein the characteristic of the incoming call is a telephone number associated with the incoming connection request.

Claim 6 (original): The method of claim 1, wherein the characteristic of the incoming call is a type of user submitting the connection request.

Claim 7 (previously presented): The method of claim 1 further comprising:

- communicating a request for the identified resource, the communicated request including the identified quality of access tier;
- communicating a response indicating that the identified resource is available; and
- communicating a request to allocate the identified resource.

Claim 8 (currently amended): A multi-service network switch providing tiered access to system resources, the switch comprising:

- a data store storing two or more access tiers including a first set of one or more access tiers and a second set one or more access tiers, each of the access tiers associated with a connection request characteristic and an access threshold;
- means for receiving an incoming connection request;
- means for determining the characteristic of the incoming connection request;

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means for determining the access tier associated with the incoming connection request;
means for identifying a resource requested by the incoming connection request;
means for automatically allocating the identified resource, executed when the connection request is associated with the first set of one or more access tiers;
means for determining an amount of current usage for the identified resource, executed when the connection request is associated with the second set of one or more access tiers; and
means for allocating the identified resource to the incoming connection request, executed when the amount of current usage is less than the associated access threshold and the connection request is associated with the second set of one or more access tiers;
means for terminating an established connection based on its access tier, executed when the connection request is associated with the second set of one or more access tiers and the amount of current usage is greater than the associated access threshold;
means for deallocating the resource previously allocated to the terminated connection, executed when the connection request is associated with the second set of one or more access tiers and the amount of current usage is greater than the associated access threshold; and
wherein if there are more than one allocated connection having the same assigned access tier to be terminated, the order of terminating by the means for terminating is according to first-in-first-out.

Claim 9 (canceled)

Claim 10 (previously presented): The switch of claim 9 wherein the system resources are partitioned among a plurality of virtual routers, and the means for monitoring of current usage of the system resources comprises means for monitoring usage of the system resources associated with each virtual router.

Claim 11 (original): The switch of claim 8, wherein the means for assigning the access level comprises means for assigning the access level based on a characteristic of the incoming call.

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Claim 12 (original): The switch of claim 8, wherein the means for assigning the access level comprises means for assigning the access level based on a type of user submitting the connection request.

Claim 13 (previously presented): The switch of claim 8 further comprising:

means for communicating a request for the identified resource, the communicated request including the identified quality of tier;

means for communicating a response indicating that the identified resource is available;
and

means for communicating a request to allocate the identified resource.

Claim 14 (previously presented): A multi-service network switch including a plurality of interface modules, each interface module comprising:

a plurality of interface lines for receiving an incoming connection request;

a data store storing two or more access tiers including a first set of one or more access tiers and a second set of one or more access tiers, each of the access tiers associated with a connection request and an access threshold; and

a processor coupled to the data store, the processor being operable to execute program instructions for:

determining the characteristic of the incoming connection request;

determining the access tier associated with the incoming connection request;

identifying a resource requested by the incoming connection request;

communicating the resource request for the identified resource, the communicated request including the determined access tier;

receiving a response indicating an identified resource availability; and

communicating a request to allocate the identified resource;

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if the incoming connection request is associated with the second set of one or more access tiers, then:

terminating an established connection if the amount of current usage is greater than the associated access threshold;

deallocating the resource previously allocated to the terminated connection; and

wherein if there are more than one allocated connection having the same assigned access tier to be terminated, the order of terminating by the program instructions is according to first-in-first-out.

Claim 15 (previously presented): The interface module of claim 14, wherein the program instructions further comprise:

monitoring usage of the local resources for at least each access tier of the second set one or more access tiers;

receiving the request for the identified resource;

if the connection request is associated with the first set of one or more access tiers, automatically allocating the identified resource;

if the connection request is associated with the second set of one or more access tiers, then:

determining an amount of current usage for the identified resource; and

allocating the identified resource to the incoming connection request if the amount of current usage is less than the associated access threshold.

Claim 16 (canceled)

Claim 17 (previously presented): The interface module of claim 14, wherein the local resources are partitioned among the plurality of virtual routers, and the data store stores the list of local resources for each virtual router.

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Claim 18 (original): The interface module of claim 14, wherein the characteristic of the incoming call is a type of inlink carrying the incoming request

Claim 19 (original): The interface module of claim 14, wherein the characteristic of the incoming call is a telephone number associated with the incoming connection request.

Claim 20 (original): The interface module of claim 14, wherein the characteristic of the incoming call is a type of user submitting the connection request.

Claim 21 (canceled)

Claim 22 (canceled)

Claim 23 (canceled)

Claim 24 (canceled)

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